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MEMORANDUM

To: Interested Bidders

From:  Mitchell Worthington
Assistant Finance Director

Ref: Bid #2019-21
Long-Range CCTV Pipe Inspection Crawler & Trailer

Date: March 4, 2019

The City of Perry is soliciting bids from qualified vendors for the purchase of one (1) new Long-Range CCTV Pipe Inspection Crawler and Trailer according to the attached specifications.

I ask that you strictly comply with these specifications and return the same to the City of Perry, clearly marked "BID NUMBER 2019-21", on or before 2:00 PM on March 25, 2019. Bids should be mailed to the Department of Administration – Purchasing, ATTN: Bid #2019-21, CITY OF PERRY GA, P O Box 2030, Perry, GA 31069. No faxes or emails accepted.

The City of Perry reserves the right to accept any and all parts of this bid. We also reserve the right to reject all bids and to waive informalities.

If you have any questions, please contact Chad McMurrian at 478.988.2733.

Attachments

Bid Number 2019-21

Long-Range CCTV Pipe Inspection Crawler and Trailer

Quantity: 1

Complete inspection system shall include four (4) components:

1. Handheld operator pendant with viewing, digital recording, and system controls
 - a. Also to include a wireless auxiliary controller
2. Steerable motorized crawler with zoom camera for 6" diameter and larger pipe inspection
3. Motorized automatic cable drum with cable
4. 14' tandem axel trailer with custom buildout

The system shall have:

1. Can Bus communication protocol for system function, status monitoring, and remote diagnostics
2. Ability to connect to a network via network cable port for lifetime remote firmware upgrades and/or diagnostics services.

Operator Pendant and Wireless Controls:

Minimum Specifications	Able to Comply	Unable to Comply	Comments
10.1" (257 mm) (horizontally measured), hand held color touch-screen monitor with 1280 x 800px display resolution for viewing, recording video and accessing control and configuration functions.			
Certified technicians shall be able to log onto the pendant, either in person or remotely over the internet, to diagnose any possible system problems that may arise.			
Dual joysticks for camera and crawler functions; one to control crawler's forward/reverse, left/right turning and speed, one to control camera's pan/tilt, zoom and home functions.			
Video signal output for external monitor or recording devices.			
Ability to display crawler pressure, temperature, sonde status, pitch (inclination) and roll, and power usage.			
Controls for adjusting illumination intensity of camera and auxiliary lighting.			

Ability to control cable reel functions: auto, manual, speed, direction, torque of the cable reel.			
64 GB file storage for an average of 40 hours of digital video or thousands of digital stills.			
Ability to capture digital still photographs.			
Auto-upright image to allow the operator to position the joysticks in the most comfortable/convenient position.			
Ability to directly engage or disengage electronic clutch.			
Ability to capture, correlate and store still images with distance and observation information, all of which can be output into several reporting packages or viewed onscreen.			
Ability to pause video when adding an observation as to not waste video file storage capacity.			
Ability to generate a graphic inclination report to show pipe grade along inspection route.			
On/off control for camera measurement lasers.			
Controls for remotely controlled motorized camera lift.			
Total weight of no more than 4 lbs.			
Ability to connect to a Wifi connection and wirelessly offload inspection data, video and still photographs			
Wireless Auxiliary Controller:			
Portable battery powered belt clip wireless controller with crawler, camera and cable reel functions for easy direct single person deployment and retrieval of the crawler at the access point (manhole/basin).			

Wireless controller must work with a single specific system in order to provide secure control when several systems are being operated in the same area.			
The wireless controller will be water proof.			

Steerable Motorized Crawler

Minimum Specifications	Able to Comply	Unable to Comply	Comments
6-wheel drive (3 wheels per side) to generate traction necessary to crawl 1000' in wet and slippery pipes.			
Proportional left, right, forward and reverse capability via manual and automatic controls via a joystick and direct buttons amongst the operator pendant and wireless controller.			
Maximum size of 12.2 x 4.3 x 3.5" (l/w/h), allowing proper clearance in 6" and lined pipes.			
An electronic clutch that can be engaged and disengaged without needing to move the crawler motor. Systems that demand movement of the crawler motor to engage or disengage a mechanical clutch will be deemed unacceptable. The clutch shall disengage upon power loss to ease camera/transporter extraction.			
Sensor package with inclination, roll, sonde, pressure, heat and motor readings.			
512 Hz integral sonde for crawler location.			
Integral rearview color camera with high-lux tri-LED lighting positioned at the top rear of the crawler body and not to have any visible increase in the diameter of the crawler body or be integrated with the rear connector.			

All connections to the crawler (camera and cable) shall be tool-free connections for ease of attachment with 1-bar waterproof rating.			
Push-button hubs on all 6 axles to facilitate quick wheel change-out. Wheel attachment at all 6 axles shall be tool-free.			
Twin hi-lux tri-LED lamps for inspecting large pipes.			
Ability to fit in 8" pipe with top mount auxiliary lighting attached.			
Shall include an electronically controlled lift to raise and lower the camera automatically once the crawler is deployed in the pipe via the main remote pendant and the wireless auxiliary remote control. Manual or fixed lifts will not be accepted.			
Wheel Sets:			
Wheel sets and spacers for inspection of pipes 6-24".			
Set of six (6) quick-change hubs that allow the changing of wheels with no tools. No exceptions.			
Set of four (4) - 3.34" Small (S) quick-change rubber wheels			
Set of four (4) - 4.72" Medium (M) quick-change rubber wheels			
Set of four (4) - 5.90" Large (L) quick-change rubber wheels			
Set of two (2) - 3.26 Climbing wheel to be used on each side of center axle when using medium rubber, abrasive or carbide/grit wheels.			
Set of four (4) - Medium (M) quick-change grease wheels (set of 4 supplied).			
Set of four (4) – Extra Large (XL) quick-change rubber wheels			

Motorized Automatic Cable Drum with Cable

Minimum Specifications	Able to Comply	Unable to Comply	Comments
Capacity for the systems 1000' cable.			
A motorized system with sensors that monitor cable tension in order to coordinate cable feed/retrieval with direction and exact speed of the crawler.			
Ability to automatically perform all forward, backward and varying speed functions without the operator having to monitor or control cable reel functions directly.			
Ability to operate in both automatic and manual modes.			
Size of no larger than 21 x 14.5 x 24.5" (hwd) with standard cable roll bar that extends 15" from the front of the reel.			
All moving hazardous components to be completely covered/enclosed to prevent injury – hand or clothing can't reach dangerous moving parts. Open access design of the front, top and sides where an operator can touch level-wind mechanism, gears, chains and belts will be deemed unacceptable.			
Upper cable guide that uses Delrin (or similar) roller mounted to lightweight aluminum frame to protect cable from abrasion during operation, and to limit operator strain during setup.			
Lower roller assembly that uses Delrin (or similar) roller mounted to lightweight aluminum frame to protect cable from abrasion during operation, and to limit operator strain during setup. Designs requiring use of interlocking poles shall be deemed unacceptable.			

Lightweight Heavy Duty Transmission Cable:			
1000' of cable with maximum 6-wire continuous-length multi-conductor wires for lightweight and easy maintenance performance.			
Kevlar reinforcement to provide a minimum break strength of 1000 lbs.			
Weight of no more than 10.8 lb. per 328' (.03 lb. per ft.) to promote portability, long crawler runs and easy handling for multiple sized crawlers.			
Strain relief to be internal to the cable and cable connector. No external wires, pig tails or other visible external strain mechanisms will be accepted.			
Solid stainless steel screw on connector at crawler end that locks with two turns, and which engages a locking spring-loaded pin on the rear of the crawler to secure the cable and provide strain relief. Connections that require any tools or loose hardware will be deemed unacceptable.			
Ability to be re-terminated by soldering no more than 6 wires, then sealed and strain-relieved using a quick-dry epoxy. Procedure shall take no more than half an hour to complete. More than 6-wire wire solder repair and Scotch-cast style solutions that require longer cure times will be deemed unacceptable.			
Cable to be only single connection regardless of use of optional items such as additional lighting, side scanning camera, rear camera, laser circle, laser dots, remotely operated lift or large pipe carriage.			

14' Tandem Axle Trailer with Custom Buildout

Minimum Specifications	Able to Comply	Unable to Comply	Comments
Tandem Axle Trailer shall be: Body 14' x 7', Overall length 18'5", GVWR 7,000 lbs, Electric Brakes, All LED lighting, semi-screwless exterior, powder coated tongue, 4" drop axles with EZ Lube Hubs, 2-5/16" A-Frame coupler			
Operator Studio Area: 13,500-BTU roof air conditioner with 5600-BTU heat strip controlled via digital thermostat, 2 drawer filling cabinet with Formica top, solid bulkhead wall with fixed smoked-glass window and pass-through door with aluminum kick plate, Formica desk with outlets above and below, cork board wall above desk surface, overhead LED lighting, 19" Tru-Vu desk mounted monitor, high back operator chair, storage cabinet, hinged bench seat with cushion and storage beneath, carpeted walls and ceiling, black treaded rubber floor, rack cabinet (for computer DVD-RW), wall file, video distribution booster, safety light controls mounted above desk.			
Power: 7000-W Honda generator (tongue mounted), shore power cord with 120V wall adapter, breaker box with 12V inverter, auto-transfer switch, cable theft deterrent with lock			
Exterior: tie-off clamp at rear of trailer, rear roof-mounted LED strobe			

<p>Equipment Area: Stainless steel work surfaces, built in heavy duty storage/tool chest, slide out crawler drawer under reel, rear facing 19" Tru-Vu monitor, tie off clamp on bumper, full height storage cabinet behind crawler drawer, wash down system (on demand pump, lighted switch, 18 gallon tank with exterior fill, 25 foot retractable hose reel), ceiling-mounted LED lights, gray FRP over plywood on walls and ceiling, black treaded rubber floor, aluminum storage shelf and caddy with trash can, wheel drawer, rubber glove dispenser, tool package (manhole hook, pick, sledge hammer and shovel, all mounted on aluminum brackets against diamond-plate backing)</p>			
<p>Miscellaneous Amenities: include hand sanitizer, waterless hand cleaner, paper towels, rubber gloves, first-aid kit, fire extinguisher, Rain-X, Simple Green, dry-erase board, traffic cones, rubber counter mat, remote mount, lanyard</p>			

Estimated Delivery Date: _____

Bid Amount: _____

Bid Valid for: _____

Signature

Date

Company Name: _____

Address: _____

Contact Name: _____ **Contact Number** _____

Email Address: _____

Note: Please provide brochure and detailed list of specifications for all equipment with bid. Three (3) copies of the bid must be submitted.